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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/706,713	11/12/2003	William E. Slack	PO7976/MD-03-30	7245
157	7590	02/08/2006	EXAMINER	
BAYER MATERIAL SCIENCE LLC			SERGENT, RABON A	
100 BAYER ROAD			ART UNIT	
PITTSBURGH, PA 15205			PAPER NUMBER	

1711

DATE MAILED: 02/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/706,713

Applicant(s)

SLACK, WILLIAM E.

Examiner

Rabon Sergent

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) 19-44 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-44 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 11/12/03, 5/2/05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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1. Applicant's election without traverse of Group I, claims 1-18 in the reply filed on October 28, 2005 is acknowledged.
2. Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Firstly, it is unclear what is meant by "stable", because it is unclear if "stable" is equivalent to the defined term, storage-stable, recited at page 13 of the specification.

Secondly, applicant has failed to specify the type of percent (i.e., weight or mole) for the NCO group content percent value.

Thirdly, it is unclear what constitutes the "desired" NCO group content.

Lastly, applicant has required that the stable polyisocyanates of the claims be partially trimerized and allophanate-modified; however, applicant's claims do not definitively require catalysts for both types of modifications. Therefore, clarification is required with respect to how the allophanation reaction proceeds in the absence of an allophanation catalyst or the trimerization reaction proceeds in the absence of a trimerization catalyst.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Slack et al. ('609 or '308) in view of Scholl et al. ('370) and further in view of Slack et al. ('272 or '399 or '736) or Rosthauser et al. ('652) or Markusch et al. ('913).

The primary references disclose the production of allophanate-modified, trimerized MDI having NCO contents that meet those claimed, wherein the MDI is reacted in the presence of a trimerization catalyst, an allophanate catalyst, and an organic compound containing at least one hydroxyl group, such as isomeric butanols or propanols. See abstracts, column 3, lines 48+; column 6, lines 29-36; and examples 10, 14, and 15. Furthermore, the primary references disclose quantities of the hydroxyl compound utilized and conversions of urethane groups to allophanate groups that meet those claimed and the use of catalyst poisons to end the reaction at the desired point. See column 3, lines 1-37.

5. As aforementioned, the primary references disclose the use of MDI; however, the references fail to disclose applicant's specifically claimed MDI isomer mixture. Still, the use of MDI isomer mixtures corresponding to those claimed to produce liquid, stable polyisocyanates having the claimed NCO content range was known at the time of invention. Scholl et al. disclose the use of such mixtures to produce isocyanurate containing liquid, stable polyisocyanates. See abstract and columns 1 and 2. Slack et al. ('272, '399, and '736), Rosthauser et al., and Markusch et al. disclose the use of such mixtures to produce allophanate containing liquid, stable polyisocyanates. See abstract and column 5, lines 55+ within Slack et al. ('272). See column 2, lines 32+ within Rosthauser et al. See abstract and column 4, lines 49+ within Markusch et al. See abstracts and columns 2 and 3 within Slack et al. ('399 and '746). Therefore, since these MDI isomer mixtures were known to be useful for producing stable isocyanurate containing polyisocyanates and stable allophanate containing polyisocyanates, and since these resulting compositions and the methods by which they were produced are similar to the MDI-based polyisocyanates and method of the primary references, the position is taken that it would have

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been *prima facie* obvious to react these MDI isomer mixtures according to the teachings of the primary references, so as to obtain the claimed stable, liquid allophanate-modified, trimerized polyisocyanates.

Any inquiry concerning this communication should be directed to R. Sergent at telephone number (571) 272-1079.

R. Sergent  
February 4, 2006

  
RABON SERGENT  
PRIMARY EXAMINER